

Serial No. 10/606,840

LISTING OF CLAIMS

The following listing of claims replaces all previous versions, and listings, of claims in the present application.

Please cancel claims 13-16 without prejudice or disclaimer, and amend claims 1, 2 and 9-12 as follows.

1. (Currently amended) An activation system for a passenger protection apparatus, designed to activate said passenger protection apparatus in accordance with a behavior of a vehicle, comprising:
 - a collision sensor unit provided in a front or rear portion of said vehicle for detecting a collision acceleration of said vehicle;
 - a control unit provided at a central portion of said vehicle in its longitudinal direction for controlling the activation of said passenger protection apparatus; and
 - a communication line provided between said collision sensor unit and said control unit, wherein said collision sensor unit includes:
 - a collision acceleration sensor for outputting said collision acceleration of said vehicle in the form of an analog signal;
 - conversion means for converting said analog signal outputted from said collision acceleration sensor into a digital signal including digital data corresponding to its signal output level every predetermined sampling time and for outputting said digital signal, said digital data including at least one byte of 8 bits; and
 - ~~a transmission means for sequentially transmitting said digital data outputted from said conversion means to said communication line by a predetermined interval~~
 - transmission means for
 - generating mirror data of said digital data, said mirror data including at least one byte of 8 bits.

Serial No. 10/606,840

rearranging, in a distributed manner, said digital data into at least two of first to third data and said mirror data into at least two of said first to third data so that said digital data and said mirror data comprise said first to third data, and

sequentially transmitting, to said control unit through said communication line, said first to third data in byte format at predetermined intervals; and

said control unit includes:

a central-portion acceleration sensor for detecting and outputting an acceleration of a
the central portion of said vehicle;

~~reception means for receiving said digital data outputted from said collision sensor unit through said communication line~~

reception means configured to

receive said first to third data outputted from said collision sensor unit through said communication line,

reconstruct first digital data corresponding to said digital data and second digital data corresponding to said mirror data based on received bits included in said first to third data, and

determine that data reception is correctly completed when the reconstructed first digital data and the reconstructed second digital data are identical to each other,

collision decision means for making a decision on the occurrence of collision of said vehicle on the basis of the detection output from said central-portion acceleration sensor and said ~~digital data received by said reception means~~ said reconstructed first digital data after said reception means determines that the data reception is correctly completed; and

activation control means for controlling the activation of said passenger protection apparatus on the basis of a result of the decision in said collision decision means.

Serial No. 10/606,840

2. (Currently amended) An activation system for a passenger protection apparatus, designed to activate said passenger protection apparatus in accordance with a behavior of a vehicle, comprising:

a collision sensor unit provided in a side-surface portion of said vehicle for detecting a collision acceleration of said vehicle;

a control unit provided at a central portion of said vehicle in its lateral direction for controlling the activation of said passenger protection apparatus; and

a communication line provided between said collision sensor unit and said control unit,

wherein said collision sensor unit includes:

a collision acceleration sensor for outputting said collision acceleration of said side-surface portion of said vehicle in the form of an analog signal;

conversion means for converting said analog signal outputted from said collision acceleration sensor into a digital signal including digital data including at least one byte of 8 bits corresponding to its signal output level every predetermined sampling time and for outputting said digital signal; and

~~a transmission means for sequentially transmitting said digital data outputted from said conversion means to said communication line by a predetermined interval, and~~

transmission means for

generating mirror data of said digital data, said mirror data including at least one byte of 8 bits,

rearranging, in a distributed manner, said digital data into at least two of first to third data and said mirror data into at least two of said first to third data so that said digital data and said mirror data comprise said first to third data, and

sequentially transmitting, to said control unit through said communication line, said first to third data in byte format at predetermined intervals;

Serial No. 10/606,840

said control unit includes:

a central-portion acceleration sensor for detecting and outputting an acceleration of a
the central portion of said vehicle;

~~reception means for receiving said digital data outputted from said collision sensor
unit through said communication line~~

reception means configured to

receive said first to third data outputted from said collision sensor unit through
said communication line,

reconstruct first digital data corresponding to said digital data and second
digital data corresponding to said mirror data based on the received bits included in said first to third
data, and

determine that data reception is correctly completed when said reconstructed
first digital data and said reconstructed second digital data are identical to each other;

collision decision means for making a decision on the occurrence of collision of said
vehicle on the basis of the detection output from said central-portion acceleration sensor and said
~~digital data received by said reception means~~ said reconstructed first digital data after said reception
means determines that the data reception is correctly completed; and

activation control means for controlling the activation of said passenger protection
apparatus on the basis of a result of the decision in said collision decision means.

3. (Original) The system according to claim 1, wherein said collision sensor unit further
includes filter means for deriving a signal component needed for the collision decision from said
analog signal outputted from said collision acceleration sensor.

Serial No. 10/606,840

4. (Original) The system according to claim 2, wherein said collision sensor unit further includes filter means for deriving a signal component needed for the collision decision from said analog signal outputted from said collision acceleration sensor.

5. (Original) The system according to claim 1, wherein said conversion means is an analog/digital converter having a resolution and a sampling rate whereby a collision decision waveform is reproducible.

6. (Original) The system according to claim 2, wherein said conversion means is an analog/digital converter having a resolution and a sampling rate whereby a collision decision waveform is reproducible.

7. (Original) The system according to claim 5, wherein said analog/digital converter has a resolution exceeding 8 bits and a sampling rate exceeding 2 kHz.

8. (Original) The system according to claim 6, wherein said analog/digital converter has a resolution exceeding 8 bits and a sampling rate exceeding 2 kHz.

9. (Currently amended) The system according to claim 1, wherein said transmission means is ~~made to carry out a current communication by controlling a current value on said communication line on the basis of said digital data~~ is configured to transmit each of said first to third data by converting each of said first to third data into a current value on said communication line.

10. (Currently amended) The system according to ~~claim 1~~ claim 2, wherein said transmission means is ~~made to carry out a current communication by controlling a current value on said communication line on the basis of said digital data~~ is configured to transmit each of said first to third data by converting each of said first to third data into a current value on said communication line.

Serial No. 10/606,840

11. (Currently amended) The system according to claim 1, wherein ~~said transmission means adds a parity bit to said digital data and transmits the parity bit added digital signal~~ said digital data is composed of at least 9 bits containing one parity bit so that said mirror data is composed of at least 9 bits containing one parity bit, each bit of said digital data belonging to at least two of said first to third data, each bit of said mirror data belonging to at least two of said first to third data so that said digital data and mirror data comprise said first to third data.

12. (Currently amended) The system according to claim 2, wherein ~~said transmission means adds a parity bit to said digital data and transmits the parity bit added digital signal~~ said digital data is composed of at least 9 bits containing one parity bit so that said mirror data of said digital data is composed of at least 9 bits containing one parity bit, each bit of said digital data belonging to at least two of said first to third data, each bit of said mirror data belonging to at least two of said first to third data so that said digital data and mirror data comprise said first to third data.

Claims 13-16 (Canceled).